```
% varying wrt SNR
% k1 and k2 kappa values
% g1 and g2 are SNR values
% y is gamma th
% p is phi
clear;
%k1=input("Enter value for kds");
%k2=input("enter value for ksd");
k1=1;
k2=1;
%z=1/exp(k1+k2);
 snr_db=0;
 snr= 10^(0.1*snr_db);
s=0;
a1=1;
a2=1;
k=1;
res=1;
hold on;
 fprintf("Rician k=1")
for alpha= 0.1:0.1:0.8
h= alpha/(1-alpha);
e=1/(1-alpha);
  y= 2^(e)-1;
 %a1=(1+k1)/g1;
 p= y*a1*a2/(h*snr);
 for i= 1:10
 for j= 1:10
 s= s+ ((k1^(i-1))*(k2^(j-1)))/((factorial(i-1)* factorial(j-1))^2) *
 meijerG([1],[],[i,j],[0],p);
 end
 end
 res=1- s*exp(-k1-k2);
%disp( " g1 value " +g1); %disp( " a1 value " +a1);
%disp( " res is "+res);
fin(k)=res;
res=1;
s=0;
k=k+1;
end
qw= 0.1:0.1:0.8;
plot(qw,fin)
set(gca,'Yscale','log')
grid on
xlabel("alpha")
ylabel("Maximum Throughput")
title("Maximum Throughput vs alpha for various fading channels with
 respect to outage probability (snr_dB=10)")

k1=0;
k2=0;
s=0;
```

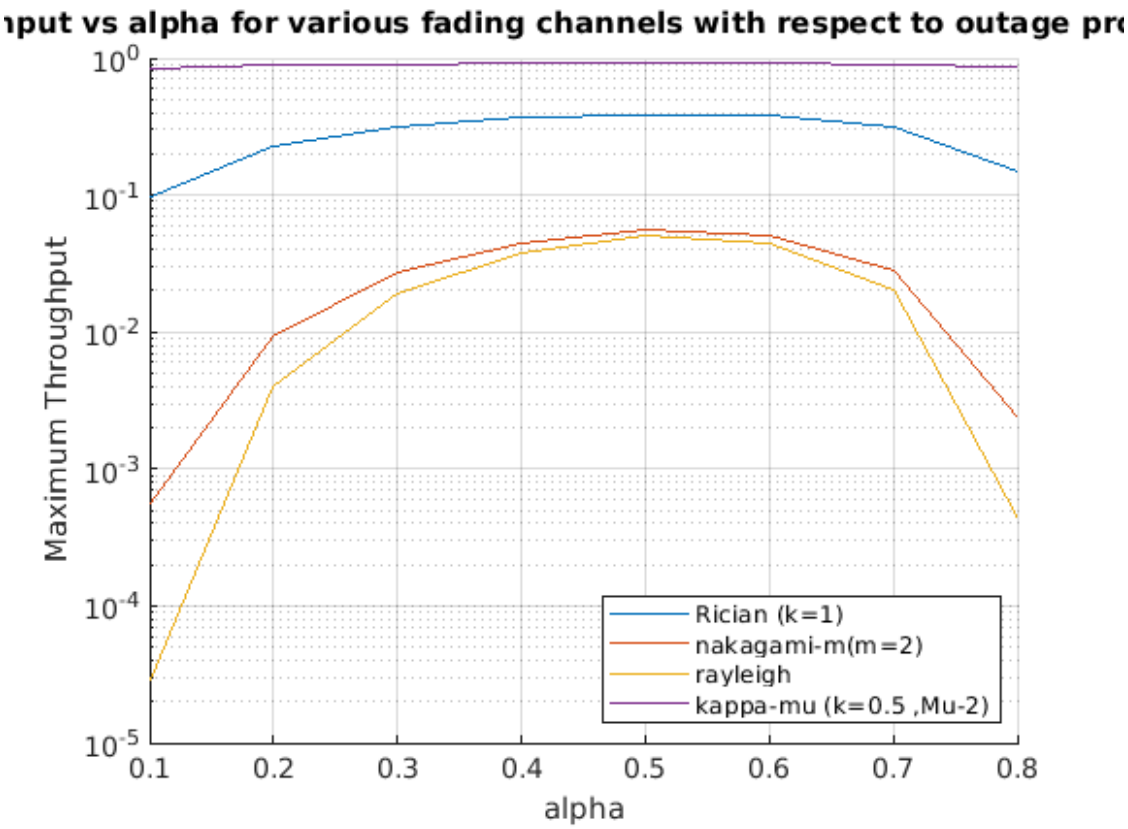
```
h= alpha/(1-alpha);
a1=1;
a2=1;
m=2;
k=1;
res=1;
fprintf("nakagami m=2")
for alpha=0.1:0.1:0.8
    h= alpha/(1-alpha);
    e=1/(1-alpha);
 y= 2^(e)-1;
%a1=(1+k1)/g1;
 p= (h*snr)/y;
 s=meijerG([1],[],[m,0],[m],m^2/p);
 res=1-s;
fin(k)=res;
res=1;
s=0;
k=k+1;
end
qw= 0.1:0.1:0.8;
plot(qw,fin)

k1=0;
k2=0;
s=0;
a1=1;
a2=1;
k=1;
res=1;
fprintf("Rayleigh")
for alpha= 0.1:0.1:0.8
h= alpha/(1-alpha);
 e=1/(1-alpha);
  y= 2^(e)-1;
%a1=(1+k1)/g1;
p= (h*snr)/y;
s=1-meijerG([1],[],[],[],p);
res= 1-s;
fin(k)=res;
res=1;
s=0;
k=k+1;
end
qw= 0.1:0.1:0.8;
plot(qw,fin)


k1=0.5;
k2=0.5;
%z=1/exp(k1+k2);
s=0;
a1=1;
a2=1;
```

```
k=1;
res=1;
m1=2;
 fprintf("K-Mu k=0.5 , Mu=2")
for alpha= 0.1:0.1:0.8
h= alpha/(1-alpha);
  e=1/(1-alpha);
  y= 2^(e)-1;
 p= y*a1*a2/(h*snr);
 for i= 1:10
 for j= 1:10
 s= s+ ((k1^(i-1))*(k2^(j-1)))/
((factorial(i-1)*factorial(j-1))*(factorial(i+m1-1)*factorial(j
+m1-1)))*meijerG([1],[],[i+m1-1,j+m1-1],[0],p);
 end
 end
 res=1-s*exp(-k1-k2);
fin(k)=res;
res=1;
s=0;
k=k+1;
end
qw= 0.1:0.1:0.8;
plot(qw,fin)
 legend({'Rician (k=1)','nakagami-m(m=2)','rayleigh','kappa-mu
 (k=0.5 ,Mu-2)'},'Location',"best")
```

Rician k=1nakagami m=2RayleighK-Mu k=0.5 , Mu=2



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